NEWS IN BRIEF

Sperry Rand joint venture?

FOLLOWING the successes of Saab-Hulvac in Scandinavia and Nippon Univio In Japan, Sperry Rand Corp is considering a smilar venture proposed by a "large company" in unother equally, challenge and chief executive J. Paul Lyet has

vac wanted.

Two other prime emididates are Oliveth in Italy and Philips in

Northern HQ

AN office to house the sales, software and engineering stoff that support its customers in the IN a move which will simplify North of England and Scotland has been opened by Porkin-Elmer Data Systems et is the commeny's Northorn region houdquarters.

Engliners' access

CHEMICAL engineers loterested in the Institute of Chemical Ligineers Physical Property Date Service, PPDS, can now acceas it via the Nottlingham-based bureau, Gemma Associetes, which is running PPDS on its Digitol Equipment PDP-11/70 minicomputer. PPDS includes a detribank of 17 constant end 15 variable properties of more than

First in NW

THE first IBM System 34 to be delivered in North West Eog-lend has gono to e newly-formed Ltd, the Warrington-based soft-:

Talephona: 01-304 B326

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Library files. Similar systems will operate in

the US and in the major

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A MEMBER OF THE CHANPIELD BROUNDE COMPANIES

Winning views of life in year 2000

were presented by readers who entered the Detaskil-Computer Weekly essay competition. The object was to forceast how computers and cammunications would be used and how these techniques would impact on

society.

This standard of entry was high end this judges had a hard task selecting the winners (C.W., June 8). Lest week, when his presented the prizes, William Woellerd of the BBC's Tomorrow's Werld series, who was one of the judges, commented on this wide range of ideae that had been developed. He said such competitions were important because they gove people involved in many areas of the information industry the apportunity

tn express their views. Here (left te right) joint first prize-winner. Bryn Jenes discusses the attoys, with Willem Weellard, and Tany Theintan and John Finals who escir received



Univac wouled Siemens for several years, but a spokesanan in Munich declared that Siemens was no longer Interested in Junit ventures of the kind Univac would. Maintaining ops systems Maintaining ops systems simplified by IBM move

By Peter Hewitt

the job of maintoining operating systems, IBM is to introduce a new method of distributing Pro-Altrincham, Cheshire. The uffice grom Temporary Fixes to OS

Sterting in August, VS1, VS2 and MVS users in the UK will receive monthly PTF tapes uniquely configured to their installed System Control Program and Sciectable Unit format licensed. In either case, the programs.

Each tape will in effect con-

tain only those fixes which are

The service, which IBM refers to as the direct distribution of customised PTFs, will be based on the register of ective proon the register of ective pro-grams meintelned for each cuetomer in the European Program

European countries.

The aystem will be particulorly apprecioted by MVS sitas, of SUs con moka it very difficult

meny calls on to the same line es shepe and time ere each pulse code modulation, is being assigned a numerical value and £100, according to Brigadier daveloped at Bath University, where it is sufficiently advanced for it to be the subject of a petent bols? for it to be the subject of a petent opplication by the National Research and Development council, it could cost ten times priete waveform generated. less than axisting low bit rete

for a customer to determine

The application of fixes is

typicelly a lengthy job requiring dedicated eccese to the mechine

end, sithough come sites select

from current distribution tapes

only those fixee that they need,

mnny follow a policy of applying

which fixes he needs.

voice encoding methode. Called Time Encoded Speech, the technique assumos that voice information is made up of o smell number of back wave shepes and that waves that have the same basic shope sound the same to the human ear, even though they differ in amplitude

A REVOLUTIONARY voice secutive psir of zero points is symbole o second, each of five digita.

squeeze four or five times as time interval measured. The

By esteblishing a monthly

update cycle, the new system

may also encourage the more

speedy application of fixes. In

view of the volume of work,

Low-cost voice transmission

At the receive end each symbol is decoded and the appro-

Work on Time Encoded Speech et Bath hes been led by Professor William Gosling, of the School of Elactronic Engineering, end Brigadier Regineld King, now army telecommunications director al the Ministry of Defence.

Brigadier King told Computer Weekly that TES transmission At the transmit end, the shape of the wave between each conof the wave between each conof the wave between each con-

Happiness is a computer date

A STODY by the West Garman government has reported that marriages of couples introduced through a computer dating service or more likely to be successful than others. Over a ten-year period, 3,000 Rusbands and wiyes, helf of whom his through a computerised marriage bersoulin Hamburg, were saked, "Are you happy in your marriage?" Of the computer couples, 40% said they were "very happy", while 18% of the others said the same.



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selection of relevant PTFs will an operational problem has ease the workload of system arisen.

The move is unlikely to affect

programmers responsible for users, es fuil PTF tapes continue

Anidalil alrendy delivers tailored PTF topes to its users, based on the consolidation of IBM master tapes and Incorporating the company's own modifications.

Implemented in hardware the

system would cost no more than

stitute of Adminishr Management, who co-order .Telecommunication the System X relaxation at step forward.

details of an agreement belief the government and the Po-Office under which real costs for telecommunications are to reduced five per cent over yeers. This is to be achieved the some time as showing as per cent return on net assets The Telecommunications Di of Brunel'e microprocessor development laboratory.

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signed for heavy duty operation.

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Data Preparation

Lowndes-Ajax Computer Service

Briefing

Unions' worry

over micros

FOUR major unions have tabled

resolutions reloting to the

mpact of microelectronles for

llie TUC Congress in September.

This hos delayed until early next

year the preparollon of a major report by the TUC on the sub-

The resolutions from AUEW/

Tass, the Society of Civil and Public Servunts, the Post Office Engineering Union and National Union of Bonk Employees cover

a wide spectrum of the issues involved, including requests for government agaistonco to in-

dude softwore, and cells from ell the unions for better govern-

cope with the social conse-

quences of creeling end using

advanced technology. ...

Targets for action

CIVIL Service computer centres

are believed to be among targete of the Society of Civil and Public Servants for industrial action if

the government does not imple-

meni in 1979 the findings of tha

independent pay research unit,

which provides stetistics used in

Civil Service pay negotiations.

ILLS FIRST CLASS SERVICE ● COM formdesign IGALL STREET DUDLEY WISHINGLAND

Post Office to relax specs for System)

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for HIGH QUALITY

IN line with recommendation he White Poper on the Ro Office the cheirman, Sir William Barlow, said there would be

Barlow, said there would be more tolerence on specification for the whole range of equipment bought for System X.

Sir William said that overses marketing would be done by the companies concerned, but that the Post Office would demonstrate the acquipment to potential buyers and offer consultance services. ancy servicee.

'We want to do all we cante help exports," he said.
This reloxation of t

traditionally rigid Post Office policy come as the corporate announced ite realits for the months up to March this was showing a surplus of Con lion of which £325 million va pulled in by the telecommen telephone services.

Commenting on the his Geurge McKendrick of the Managers Division evidente the Carter Committee, describe

> AN EXTRA 100,000 deta processing professionela would be ne-The White Paper also go eded over the next 10 years, including 1,000 more computer gradustes s year over and above the 2,000 currently being turned out by UK higher education in-atitutions. This was the view expressed last week by Professor Mike Pittewey of Brunel University et the announcement

Swansea halted

THE three ICL System 4s at the Swansea Driving end Vehicla Licensing Centre have been abut down for over a week because muntenance engineers ere el conditioning plant. This acdon, in support of a pay cleim by government blue collar workers, has halted the issuing of driving licences and vehicle registration

Modeomp addition

SECOND, more powerful model has been added to Mod-comp's new classic line of hidicomputers in the US. Called the 7870. It takes up to one Megaword of two way interled at 16-bit memory, but otherwise is smaller to the only one model in the line so far intoduced, the 7860.

Modeomy's Ken Harple spike to W-- Page 22.

Introduced, the 7860.

Moliconer's Ken Harpis calks to work's International asotton (pages 15/23). The Canada Usvelopment Corp has come to the rescue of the foundaring Wordplex organisation and is merging it with AES to torm a group that could have considerable potential in the market (page 15), Project Prelude gave a glimpse of what telesomment in the UK part talk show being tused to the business commanity in particular. Morris Edwards outlines some of the implications of this series of the fundamental in the market (page 15). There is also a report from Weahington by Cameron Davis in the Weahington by Inhibition network inking its de-tors and failing blants in the UK in its M 370/138 a Slough A System Ten is how being used by development work and the first letwork machine is due

Remole Compuling ● ● ● VM/CMS plus

Tories to honour Labour commitments

IF returned to power at the next elections, a And Hastings' Tory MP Kenneth Warren, Conservative government would honour all who has taken a particular interest in the commitments entered into at that time for computer industry, commented that assistance supporting the UK microelectronics industry, from government sources for new industries according to the Purty's indostry spokesman was always welcome.

Number 612

Sir Kelth Joseph.

Spesking after the latest announcement of support for the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry by lodustry by lodustry Minister Eric Variey — £70 million in the semiconductor industry by lodustry b over five years from the Department of Industry (see page 3) — Sir Keith told Computer Weekly that the Conscructives would review whether, If it was decided that the industry all expenditure proposals from the present govarnment but would not go bock on any specific commitments made by the govern-

Thursday, August 3, 1978

Making it clear that official Tory policy was should be supported, £70 million over five years

"There is e division of thought on whether the government should be involved in high-

toking shareholdings in companies: its job should he to encourage rather than get involved," he sald.

Price 18p

The latest Dol plans for support of the UK microelectronics industry were enthusiastlcolly welcomed by Dr Gorry Thomas, general manager of ITT Semiconductors at Sideup. which is to start production of 64K RAM samples later this year.

"We are at on advanced stage of discussion with the Department for support under both the development and the production schemos," he told Computer Weekly. "I think the Department's plans are extremely well-founded." Government micro piens, page 3.

IBA's Oracle freed

STRIKEBDUND eince its leurich isst October, the Independent breadcasting for the deaf.

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BOC's £10m move into minis

over the next year on ecquisi--tions that could make it a major force in the minicomputer sys-tems business both in the UK and oversaas.

Chief executive of the BOC computer services division, Brian Mills, told Computer Weekly that in the short term BOC was mainly interested in taking over UK systems houses, but that its intention was also to acquire firms on the Continent

already had a presence on the Continent on the bureau services side, through the BOC Detasolve office in the Hague and the Datastreem officea in Frankfurt end Rotterdam. Detestream is the finencial acrvice acquired by BOC about 18

months ago. Another likely development at BOC, according to Milia, is the establishment of a microprocesaor systems house, but this would be achieved by acquiring

sultable people and building a

Tracking down long-stayers

This would catch people who try to get around immigration controls.

by entering the country on a short-stay visa.

The immigration Service elready parties es to backs by hand on a random besis. The computer will allow this to be much more thorough.

US group seeks Euro links

munications Users in the US is keen to create links with user groups in Europe that share its interest in matters like international data networks end communicetions standards.

The executive director of ADCU. Dr. William Saxton, told.
Computer Weekly that the
association was deeply involved
with domestic legislation, such as the new Communications Act tact the association president. Wood; formerly Detaaolye's which will dramatically affect John P. Compitello, c/o ADCU, seles and marketing director. the whole future of talacom. PO Box 1184, New York, NY. Miles remains, of airman of tha whole future of talacommunications in the US, including 10019, USA.

Reports on the expending worlds of word processing and selection munications are featured in this work's finternational asotton.

THE young and growing data communications (CW, July Association of Data Com- 20).

But Dr Caxton emphasieed that "a dialogue acroes the ocean" was one of the alms of ADCU, pointing out that its 175 members included international companies like the Chese Menhattan Bank with computer operations on both aides of the Atlentic.

- interested parties should con- post being taken over by Chris

COMPUTER WEEKLY'S INSIDE NEWS

taking over existing firms in the Recently, the Grend Metro-politan group elso set up a micro

around them, rather than by

isst October, the independent Brosdcesting Authority's Orede teletaxt service is about to reapposer in a new, improved version. Replacing two Digital Equipomont PDP-11/10s and a POP-11/40, the three independent television compenies involved, Thames, ITN, and London Waskend, have each installed a POP-11/34 system. Special software has also been dissigned by Computer Special Services of Reciding, part of DEC, which gives the Oracle editorial breakcasting for the deaf.

Previously, en operating system beset on RT-11 was used, but the new cenfiguration offered by DEC's RSX 11M system.

In the government White systems auch es Oracle and the BBC equivalent Coofax were said to have a potentially "profound the provious of Reciding, part of DEC, which gives the Oracle editorial "Previously, en operating system beset on RT-11 was used.

In the government White systems auch es Oracle and the BBC equivalent Coofax were said to have a potentially "profound the provious of the new configuration workshop to study microsyswhich gives the Oracle editorial teems more sephiaticated text (CW, July 27). These include real-time or pre-resorded sub-titing for use in situations such as move fleshos or the development of these sys-situations such as move fleshos or tems. Milia eees BOC as already being a major international ser-

vices company, which is why he quoted e dollar figure, \$40 mlion, ae an eetimate of BOC's total turnover from computar services this yeer. . . According to Mills BOC's computer service business,

which now comprises mainly

\$100 million mark by 1980.

ecquisition a few months ago of Airco, a billion dollar firm whose main line of business is the seme as BOC's — industrial gases.

Airco elready has some involva-

ment with computer services

through the computer training

schools that it runs in Washing-

fn order to concentrate on the

acquisitions project Brian Mills has stepped down as managing director of BOC Datesolve, the

bureau operations, is growing at e rate of 35% a yeer, evan with-out acquisitions, and a move into minicomputer syetems ahould take the company'e total turnover from services over the

sidering Transpec and Telanet to provide a ready-made X25 In the US, BOC now has a major presence through ita

UK switches to Telenet

The Post Office has been con-

THE UK public pecket-switched network is likely to use US-built Telenot processors following problems with the switching system for the French Transpoc network that has also caused Euronat, which is besed on Transpac, to be delayed until

awitch ea a etop-gap for its all digital System X speech and deta exchanges due in the early 1980s. Telenet processors in London ora elready used by the Post Office to access US net-

"Press" but no recommendation were made on the "institution

According to Logica, Euronet contrector, the problem with Transpac is in the CP-50

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Indian enterprise (page 21), and George Gogar offers some views on new steel for micros (page 20). And a facet of the ever present intermitianal pusetion of standards Downtime by Chad Data Dynamics side Brunel Michie's Private view And a topic of the ever present international question of standards. Is dealt with by Devid Mukworthy of Edinburgh, in the first of two articles he outlines the work that has been done on the revised were Software File Tunor from Digico Word processor be Word processor base People in the News

Fables view of computers Op Boot Micro News International Section Listness to the Editor ALSO . I.... Computerview on the Carter box Foots on sporting IIIe Government's micro commitment Revision of Forman

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250,000 a month, and t6K chips

at 80,000 a month, and almost al

of them are exported," said Dr

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Vol. 25 No. 612 Thursday, August 3, 1978

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Stanch Offices: Standaghers 202 Lyaten House Walsal Road Barnaghers 228 Telephone 021 365 4838

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Published weekly on Effortiday : IPC Businesa Press Ltd 1978

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Considered Weekly has a greatering cach wood of hear 22 tools and in the light had been seen as the light had been a seen as the light tools are the light

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CONTRIBILITIES OF THE CONTRIBUTION OF THE CONT

Computers and politics tangled in a complex web

the sale of the Univac 1100 to the the rules for the sale of com-Soviet news agency Tass (see page 15) shows that computers ve now become irreversibly linked with politics. But although politicians like to paint their world in terms of simple. clear-cut images, the entanglenucnt of technology and politics highlights the difficulty of taking such a simplistic political

For example, although President Corter has sold that the Univuc Tass ban wns o "one-off" geeture of protest agoinst the reetment of computer scientist Anntoly Schnrensky by the Soviet government, it is clearly port of a longer-term approach to diplomney. In which trade is used na an intrinsic part of foreign policy.

The main Washington odvocate of thia approach is national Brzezinaki, who was in the forefront of White House discussions which culminated in the Tass ban.

At the same tline, however, the White House was taking positive action to increase its technological trede with China, ironically approving the sale of two Univac 1100s to Chinese aducational establishments

There are also reports that the

puters to East Europe, which is governed by rules developed by CoCom, the co-ordinating com-

mittee of the "Western" block. The Americans ore apparently Interested in increasing the upper limit on permitted sales to the East to encompess the IBM 3031 level of power and, et the lower end, to include micros.

And President Carter is still epared to ollow on IBM 370/ 148 to be used to control the Information system at the Moscow Olympics.
From the point of view of the

potential purchaser of American systems from countries which night fall into Presidential disfovour for politicel reasons, the current American attitudes, with glaring inconsistencies. could lend to a move towards euppliere from Europe and Japan — or to the developmen of an Indigenous industry, as is hoppening in South Africa. Following a ban by the

American government on seles of computers for police or military use, fear spread in South Africa that the ban might be extended. The result has been the eudden mushrooming of local computer companies in South Africa, or the establishment of local manufacturing facilities on behalf of American

But sources close to the White House indicate that, if any other Western country tried to step into the gap left by en American ban, there would be consider

able White House anger. And so the tangled web grows - yet who cen now ergue that computers and politics cen be

kept totally apart? The use of computers is so crucial to the operation of governments that the means cannot be totally abstrocted from the ends.

The whole issue, however could be undercut by the ubigultous micro. To try to ban the sale of micros is virtually Impossible, given the emnli size of the devices, which can be slipped Into diplomotic bags and pockets with ease.

In the long term, the technological commodity which will be n greatest demand is human skill - and the political systems which prove to be the strongest are likely to be those which en courage end foster the development of these skille. Anatoly Scheransky le a dle-

processor linked to Brncknell. tinguished member of the comand the 2904s will be redeployed. puter community; his is a talent So far Racal has about 15 nf its the Russians cannot easily lose. manufacturing operations, using 80 terminals, linked to the This loes is a self-inflicted wound that could, if multiplied real time ayetem, and mnnageprove to be far more damagin ment services director Derak than the banning of the sale of companias, auch as General one computer system to Tass. visaga about 30 sites online via ome 200 terminals

One of the applications to be loaded on the 2960 will be on order processing and monitoring eystem that has been developed

Package tours to Sicob in Paris next month

TO enable Computer Weekly readers to nettend Sicob, the big French computer equipment and systems show to be held in Pertairom September 20 to 26, three special package tours have been erranged. There are two two-night packages starting on September 20 and Soptembar 22, and a four-night tour running from September 20 to 24. The first two Row, London, WC1.

dual 2960 system from ICL.

group's HQ is located, and the

unit, is due to go in in Jenuary.
The 2960, which will run en-

tirely under VME/B, will handle

work at present loeded on 2904s

at Bracknell and Reoding, and

on a 1904A at Tewkesbury. The

1904A is to be replaced with n

terminel system or o front-end

£1.25m ICL Portsmouth expanding Raca

TO nicet its Increasing work TO take over and expand its real load, Portsmouth City Council to replace its IBM 370/135 with time manufocturing control system, the Rocal Electronics group is installing o £1.25 million larger 370/138 and take on sen computer staff. The me machine, to be installed in r.s. The first processor with two 1979, will cost about £90,861 Mbytes of store is elready inyear on a five-year lease, ania stalled at Racnl's new computer extra staff are expected to all centre at Brecknell, where the about another £45,000 a yearte

econd processor, n one Mbyte "We will be taking on database administration man nger, three systems ensiys and some programmers, said council spokesmen.

Siemens' office systems project

aince World War II; Skews ! investing DM 500 million, use £125 million, in technolog The level of support of the Istest scheme; 214-million a office. The project envisage year, is substantial when meaaingle terminal unit lump sured against the present total UK semiconductor output, rating telephone switching voice and data transmisses which is estimated at £63 million facsimile systems. Suchabile could rival the 8811 440 Justifying this level of suptelephone already introduced in Nixdorf. port, Vsriey said that although

Ten years ago...

COMPUTER WEEKLY

THE first new product to be immohed by ICL was a magnatic tape encoder developed jointly with Potter Instruments of US... . Monohoster Hospitzi Bozrd took delivery of an ICL System 4, the first to be installed for medical and hospital use . . To combat fraudulent abuse of credit cards in the US, American Express installed an IBM 360/

York . . . Research simes a expanding the scope of some puter applications was being undertaken by the National Physical Laboratory . . . CAL became the first independent softwere house in Bureps to be commissioned by IBM to work

on the development of the PL/

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required, at a cost of "hundreds ond hundreds of millione of pounda" to the balanca of pay-

"We do not want to become prisoners of foreign technology He estimated that the proposed support, if all of it was taken up, would lead to investment on the part of the Industry

of some £250 million.
Of the £70 million total, £54 million is being provided under the Science and Technology Act 965, for research development. Research projects will be

unded at up to 50% of aligibleosis, recoverable where approprists by a levy on the resulting products. Development projects will be funded alther with grants

the ventures will have to be high-risk, or the company will have to be very short of cash. and the support will be recoverable by a levy on sales. All attempts to get the major

Varley announces

£70m aid

for micros

FIRMLY rejecting the "timid, short-sighted school of thought

which says that there is no need

for the UK to develop its own

microelectronics capability

when it can buy products from

abroad", Industry Minister Eric

Varicy last week ennounced u

£70 million five-year support

scheme for UK-based micro-

The Deportment of Industry

(December I. 1977), now brings

the government's commitment

to the microelectronics industry

to about £150 millon, when the

NEB's plenned £50 million sup-

million for micro applications

The microelec-

tronics market is

one of the least free

in the world.

are included.

UK manufacturers, principally Ferronti, GEC and Plessey, to collaborote with each other huve so far failed, but a carrot is held out in the form of even plan, exclusively revealed in Computer Weekly lost year higher support in cases where collaboration would reduce duplication of effort, or produce enhanced results. This measure is also olmed at colleborations between a British end a foreign port for inmos and the Dol's £15

Eligible costs ere any equipment not regarded as normal tools of the applicants trade, up to 80% of the total development cost. The scheme is open to al companies operating in the UK microelectronics sector, in-cluding non-British owned inultinetionals.

Verley also said that there would be some kind of formula under which companies could get support for their own innouse microelectronics facilities, something for which both Racal and ICL have asked (CW,

Under the Industry Act 1972 (a Conservative measure, Varley pointed out) £16 million is being the unit cost of imported comallocated for inveatment in proponents might be a few dollara, duction facilities; and grants will very large numbers would be be made of up to 25% of the total

This will be additional to any other grants available to contpanies for satting up in developmant areas or areas of high unemployment, Varley told Computer Weakly. .

"The microalectropics market is one of the least free in the world," said the Minister. "The US has a tremendous-lead because of its work in a major space and defence programmes No advanced country will let I retain that isad unchallanged and nalther ahall we. The Japanese have avolvad a ignificant support programme for VLSL circultry, and the French and the Germans are also planning support maas-

Effects on employment study switched to DoE

DIES into the employment implications of microelectronics hat will be required by the Central Policy Review Staff, tha government a 'Think Tank', ill now be carried out by a naw group established by the De-The group, which comes

thin me Department's unit for annover studies, is handed by Basistant secretary Jonathan Sleigh, 38, a career civil servant from the Ministry of Defence. Ha Will be backed by a full-time conomist, plus another. worg part-time, and consideraion is being given to the appointment of a computer sys-

has been established for one ar initially and will ba cohsring all potential effects, inling the soops for new abyment comportunities, and

placement of existing jobs.

The group will try to estimate the manpower effects over the next five to ten years, and it will also consider the requirement for training and ratraining during that period.

In particular, it will be concerned in the sarly stages with the existing skill shortages in

Merseyside

SEEKING to get the inmos plant sited in the region, the North West Regional Council of the TUC has written to local MPs urging them to press the claims of areas such as Merseyside, with over 12% unem-

Inmos not worried by 64K RAM production in UK by ITT

company, ITT Semiconductors of Sidcup, Kent, will begin pro-duction of sample 64K RAMs later this yenr (CW, June 22), lann Barron, co-founder of the National Enterprise Board's Inmos venture, is unconcerned time that 1TT will have over

Government commitment to industry now about £150 million

VARLEY . . . "we do not went to bocome prisoners of foreign toch-

New division

TO stimulate awareness

microsisctronics technique

the Department of Industry has established a new Electronics Applications Otylsion.

Emphasising that Immos planncd to develop "quite a wide range of products", Barron ted to market leaders intel and Mostek as companies likely to provide stiffer competition than ITT. He also pointed out that "we have never confirmed that Inmos definitely intends to make 64K RAMs and, at Iltis stage, I am not prepared to suv whether we shall nr shall not."

"ITT only started designing Its 64K chip in June. The technology to manufacture tham economically is not yet availeble, and the market is not ready

for them yet, so I do not think they have a lead over us if we do decide to make 64K chlps," suid

ITT Semiconductors is the spective, IBM currently uses only UK-hased company 2K-bit chlos in the large-scale 3033, but if it were to use 4K making memory chips in volume, and is the international chips, a typical configuration headquarters of ITT's effort in with 8 Megabytes of main MOS technology and memory memory would require 16,000 of "We hope to begin sampling

Barron also qualified a state 64K RAMs et the end of the ment made at the time of the year," general manager Dr Gerry Thomas told Computer formal inmos launch 'We said we were not going to Weekly, "Technical details are second-source other companies under discussion with our cusproducts, but what we meant to tomers, but there will be no muemphasise was that this would not be the basis on which Inness in surprises in the device: it will he more conventional thun would be built up." Fuiltsu's chip.

The industry traditionally off-Fuiltsu's 64K RAM regulres cred multiple sources for its products, he noted, adding that power sources of -2 and +7 while inmos had no plans to volts, but other manufacturers make its first product an Item are planning devices using a single 5 volt power supply. We are currently monufacturing 4K-bit chips at a rate of appropriate at the time.

PDP-11 USERS DIBEX- DIBol EXtendedis your answer Are you laced with upgrading the hardware of your PDP-11 to run more or biggar jobs? Are you a scientifically-based PDP-11 waar wishing to run commercial work (psyroll, stock control, alc)? Are you faced with the prospact of buying bundled hardware and commercial software? DIBEX gives total compatibility with Dibol-11 source programs. DIBEX enhances your PDP-11 without additional hardware to give up to 50% more performance then comparable time-sharing DIBEX sllows mulli-terminal program davelopment and monitor commands. DIBEX, the language, is a superset of DIBOL-11 with additional I/O facilities. DIBEX is in widespraad use in the USA and the number of installations DIBEX IS DISTRIBUTED AND FULLY SUPPORTED ST. SET ON NOTLINGS (ORD) ON NOTLINGS (ORD) ON NOTIFICATION (Telex OTTS) 71 is growing everyday. GAMMA THE SAFE SYSTEMS FOUTE WITH DIBEX

GAMMA GAMMA

FOCUS

EVEN the most academic DP aware of the sporting fife currently being promoted by Com-puter Wackly. Particularly noticeable has been the weekly picture gallary of tee-shirlad young lades in various stages of windswept collapsa at tha complation of an invigorating steeplechasa in the Compu-

astars competition. DP management views on the

INTERRUPT

which had a fairly simple operating means are tor just typed in a statement such as "LEG A" or "LEG B" etc. and the computer acted on the instruction. The console trans-mitted only the last four cha-

radiers of the lina typed. One day a notable was being shown round the installation. He went to the console and typed tions and projects are race against shoes. Space time could be EVERYONE IN THE COL time DP activities strongly fact diverted from page three conferences. LEGE. So the operating system then tried to pull in "LEGE" and things crished.

Motal: Take care, or you may

not have a leg left to stand on.

This interrupt was submitted
by John Ferry of Logica, who
will receive the 25 award:

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to be put on file. These, however, may not necessarily be favourable, especially as certain installations are already suffaring Saturday Night Favor, Instruc-· tione could well be issued that data runs are limited to work

should be atored - act broken.

known to descend rapidly.

progress; track avents to disc, the job in hand will be suchendling; and that records cessfully completed deeplte the Computastars, in fact, are not axactly new in the DP world. Many DPMa sea stars following the wiping clean of a long charthat the faulty datacor laned historic record fileror when does not detariorate.

THERE was once a computer in at the completion of a lengthy managing director does

sporting aventa are not entirely ceas of Computastars, there unknown within the confines of could be a change in emphasis. the OP section, Many applica. Standard Installation dress

likewisa eean during ratrieval operations involving the lower level stock of atetionery boxes whan upper lavels have been comes to presenting expense It must also be admitted that

cure both games of fortune and figurations to on-the-spot run-chance, while certain operating ning and press-ups. The lostal-proceduras, are remarkably latton Wonder Woman titls will dicay, Park Lahe casinos could no longer be awarded to the well cellact some helipful sips. fastest data prep girl. Plate watching the DP operator dex competitions will not refer to the troughy changing packs with loser of the washing-up saled. trougly changing packs with loser of the wordy a break in the data flow than program.

latest work distractions have yet Black-Jack could well be the insistletion engineer loker who seldom appeare when rafrom an energetic axcass of of wondering whather the user Thank God It's Friday and department will lodge a formal

Games of chanca include that of wondering whather the user company compisint in respect of work delayed three weaks runming, or in taking a chance that the job in hand will be sucfact that atationery stocks are dangerously low: that the key lo tha back-up safe has been laken home by the previous shift; and that the faulty datacom link

It le also a chance that the an educational establishment, printer run has been erratic or happen to walk through the in-which, had a fairly simple the wrong date loaded. Stars are stallation during a high-stakes gama of gin rummy in tha tea break Similarly DP gamesman ship has few equals when It

Following the undoubted suc-

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Buzz, buzz...

ductor industry. Like all gond product ranges. state-of-the-art (buzzwords) leading-edge-of-technology Rubleon". (buzzwords) industry, it has heen second only to the compuler industry in inventing punchy auccinet and lmuginative terminology with which to describe itself — buzz-

But, suddenly, it appears to have lost the gift, or mora alnrming, picked up a cleasioni education, for the new vogue expression in Silicon Valley la "crossing the Rubicon."

is it, I asked myself, a new breakthrough in rare mineral trend among the semiconduc-

THE American National Standards Institution, ANSI, has

completed work on Fortran 77, a

revised standard for the language, formally dafined as X3.9-1978.

The revision of the 1966

standard turned out to be an

compilera, ideas on desirable anguaga constructs were, end

are, aubject to wide debate and

development and the project

was in danger of becoming a

eight years, 30 man-years and \$2 million a halt was called.

This means that no one, in-

cluding the ANSI committee

agree with every single decision on inclusion or exclusion of

items, but most people accept? that the new standard is a

significant and nacessary ad-

Great emphasis was placed on.

compatibility with the earlier standard and so Fortran 77

retains all the essential features

of the isnguage. In particular, the characteristic layout of

statements, the maximum name

length of six characters, and the

rammer's control over dal allocation through COMMON and EQUIVALENCE are

A block IF is introduced but it

relates only to code structuring and there is no corresponding

● YOU will be familiar with the paranols of our Good Neighbours, the French, about their language, and their frantic struggles against the encroachments of Frangisis in inventing new French words for each now Angle-Saxon tachnological discovery as it comes along. "Logicial" for "software" and "metericl" for "hardwore" spring to mind. "Informatique" is a catchy word, if untranslatable. Well, they have now come up with a naw word covering the field of office eutomation: "bureoutique." Interesting, but how does one translete tt? "Gurotics?"

SOMETHING appears to he verong with the US semiconintegrate (buzzword) their

This is "crossing the

According to Chambers'

Twentleth Century Dictionary. the Rubicon Is a stream in Central Italy, In Roman times, it separated Caesar's provinca of Gaillu Cisaipina from Italia proper. The first "crossing the Rubicon" was made by said Mr Coesar, a movu that was taken as an open declaration of war by the Republic.

I am greatly saddened that the analogy is so trensparent. The industry is obviously echnology? No, the phrase in losing touch with itself, and queation refers to the growing nossibly gaining a hold on

A revised American National Standard for Fortran, informelly known as Fortran 77, was finally approved by ANSI in April this year (CW, Mey 18). The standard itself has not yet eppaared in print,

although a preliminary dreft was published in Sigplen Notices in Merch 1976. Compilers written to the Fortran 77 standard ere not yet ganerally avail-eble, sithough most menufacturers heve

i'm not promotable. "Writers and editora are much in vogue at commence-ment time, but since I am an

"I have held only two jobs in

my life, both in the same field,

so I cannot testify to the

variety of opportunities I know

you can look forward to. And i

have held the sama job for the

past 10 years, not o record of wida axperience. In fact, my

personnel director tells me that

Confessions of a president

engineer, you will assume I can't write. I do sign a number of latters and forms and contracts. But they are usually written by somebody elsa. 1 talk to editors and reporters occasionally, aithough It

Indicated their intention to produce

them, In this erticle, DAVID MUXWOR-

THY, of the Edinburgh Ragional Com-

puting Centre, eummerises the mein

Postol Service, planning to raisa its letter rate from 13 value. She wonders whether, cents to 16, printed zillions of revolution, the US Postni Ser-16 cent stamps, but was then told by the government to keep the rate down to 15 cents. There were hardly any 15 cent stampa in stock, so a supply of emergency stamps was due out of the back rooms, louide doesn't seem to do much good. things over. They are in the business of Don't bother to chase after selling newspapers, and the the A atamps as rarilles; there opinions of engineers and businessmen don't help aeli must be enough for every stamp collector in the world to

her, I gother the explanation is

rather more mundane. The US

pectad about as much as Quite right "i started a computar company, along with several other

paper his walls with.

MISPRINTS, as every writer knows, can be very embarre-sing. Take this senience from a recent article on ICL CAFS in the computer press. "The statement that data records will be selected on the basis of what they contain rather than what they are stored is non-

You're right, It is nonsense!

the previous (1986) stendard. In a subsaquent article, ha will describe the less of thought currently being followed by the ANSI Fortran committee, X3J3, on the next stondard, due in 1982.

points of Fortren 77 by comperison with Revised standard exercise in language development (by committae) rathor than one in retrospective standardisation. Language facilities were standardisad which

PASS GOEDS VER COMUTER TERMNER >

president of Data General,

Edson de Castro delivered an

interesting spaech to the graduating class of his alma

mster, Lowell University. My

sples, who have been known to

scole the ivy-covered walla of

academia to get their stories, brought buck the following,

more light-hearted, excerpts

called a commencement, but 18

years ago at my graduation it seemed to me to ba the end of a

blg chore and the event was.

"I am too young to be giving you advice after a life well-

spent. And you are clearly too

something of a bore.

"I was told that this affair is

standardisation. Language facil-ities were standardisad which appeared in few, if any existing

So far as posabla, the committea attempted to generalise the language so that where the able. Fortran 77 allows an ex-pression and where formerly an integer entity was required, now

any arithmetic type is allowed.

The new type CHARACTER, so far as is logically possible, follows all the normal rules of Fortran. A oliaracter variabla may have its type defined in ona statement and be dimensioned another, character functiona exiat and ao on; it is possible to access substringa

The character type statement is in the styla of the ourrent IBM. arithmetic type statement so that a program unit could in-

> CHARACTER*15 A.B(2),C*1,D(3,4)*40 A = APPLE STRUDEL |F(6) A(3:5) = FEL |D(1,1) (k:F(K)) = B(1) (L:)

elates only to code structuring
and there is no corresponding. The interpretation of these
dynamic allocation of data. The
statements is fairly obvious
other major changes are the incritical Tris accommodating to
troduction of a type
strings of different lengths, padding with spaces or truncating
mant of type Hollerith and, at
on the right as appropriate. Ar

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implies the first or last position in the atring. The colon, used here, in the array declarator and elsewhere is the only new character in the character set.

Characters may be equivalenced, but only to other characters, either explicitly or in-directly through COMMON atalements. Zero length atrings are not allowed. Charactar etrings may be compared in . relational expressions according to the collating sequence used by the processor and, in order to allow a machina independent comparison, functions are pro-vided which use the Ascil collating sequence.

fined for characters is concate. , alon and complex; this is banation, with operator// Cha cause the data type double pre-racter expressions including cision complex does not exist constants, may be used in place. The order of evaluation of ex-of a format in a read or write pressions is not defined and pro-

READ (C, '(388.4)') X,Y,Z

lly I, and may have up to seven an integer expression, subject only to conditiona about side affacts of function references in

allowed for every combination of arithmetic variable except for The only new operation de- tha combination double preci-

of a format in a read or writs pressions is not defined and prostatement and character strings.

cessors may evaluate mathematy be used in place of a logical matically equivalent axpressions; including the effect can force the order of evaluation of ENCODE and DECODE but with a different syntax in this sxample, numeric variables X, logical equivalence are introduced.

7. Zere converted under format control to characters in the string C.

Fortran 77 hear adopted and of a string control of the cont

Hollerith characters may no loop has been updated to allow force the printing of loading port tha full language. It force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full language to allow force the printing of loading port that full anguage to allow force the printing of loading port that full language to allow force the printing of loading port that full anguage to allow force the printing of loading port that full anguage to allow force the printing of loading port that full anguage to allow force the printing of loading port that full anguage to allow force the printing of loading port that full allows at most threat difference and the printing of loading port that full allows at most threat difference and which may independ the printing of loading port that full allows at most threat difference and which may independ the printing of loading port that full allows at most threat difference and which may independ the printing of loading port that full allows at most threat difference and which may independ the printing of loading port that full allows at most threat difference and which may independ the printing of loading port that full allows at most threat difference and which may independ the printing of loading port that full allows at most threat difference and which may independ the printing of loading port that full and the printin

IF(e)THEN (ELSE

side the block is prohibited.

determine certain file attributes and the concept of "internal files" which are in fact character'

atrings.
There are minor extensions to format codes, for example, to use on systems too small too force the printing of loading port the full language, it is zeros and to cause blanks in cludes type character but human.

whether the argumeni is the of deaths precision of the military of deaths precision of the military of deaths precision of AMINI etc end to instead of ALOG. CLOG set DLOG. An optional PROGRAF statement has been soded to name a main programand bod dota programs may now to named. An early change to the language which goes against more modern trends is the set tion of labels as arguments to subroutines and the so-called alternate return from sub-The old problem of the relat

tion of local values to submo-grams has been addressed by introducing the SAVE sistement which allows the piv grammer to nominate variable whose values are to be saved of exit from a subprogram SAYF may also be used with composi-blocks thus enabling tha calling siructure of the program low implicitly indicated within it this too is new to Fortran:

Fortran 77 Includes mi other datalled changes, or example, functions when the parametars, omission of label list in the assigned CO asterisk accepted instead of Fortran 77 Input/output la denote a commant and so on. It would be fedicit Apart from things alread mentioned, items which mentioned changes.

have been expected to be cluded but were not inches
NAMELIST DOUBLE PREC
SION COMPLEX. Choice o lengths for integers and logical and bit manipulation. There has also been defined a subset language which is inter

Data Dynamics aid Brunel micro lab

would be patented by the Natio-

nal Research and Development

Council and the profits shared

mainly by fourth year students

earrying out microprocessor or-

Dynamics, paints out that any

project carried out in the lah for Data Dynamics that had a com-

inercial dendline would have to

be paid for by Data Dynamics in

the same way that any other

company would have to pay.

He adds that the lah would be

able to produce microprocessor

software that could be of value

iemad projects.

The laboratory will be used

Professor Pitteway, who is a

hy Data Dynamies and Brunel.

marketable developments and terminals.

micro-hased systems and pro-ducts is being set up by the Computer Science Department of Brunel University and terminal monufacturer Data Dynamics. The basis of the arrangement is £15,000 worth of power supplies and other hardware from Dato Dynamics for use in the deportment's new microprocessor laburatory. This will greatly augment the meagre (18,000 o year that the department is allowed for new equip-

Two conditions of the Data Dynamics contribution are that is nersonnel will be able to use the lab, and that the compuny will have the right to exploit any commercially viable developments that may result from

Following the investigation

Floppy Diek Drive
PLX45D
Media compatibility and deta
intercharge between units and
with law, system 3791 and 3742

y-82 Mbits

Row over South African trip results in new selection system at Leeds A NEW computer technicol the two men usked that they

next computer system, when the system "to avoid any possible order is put out to tender in the criticism in the future. Leeds now uses an ICL 1904S early 1980s. This follows a shift of responsystem, but according to Coun Keith Loudon, a member of the sibility for the computer from the Department of Flunnce to council's computer subthe Department of Administracommittee, which was set up ion, made earlier this year after iasi month, ICL will not receive the council investigated a trip to the next order automatically, South Africa financed by ICL, which was made by James Beer; but will have to compete at least with-tha three monufacturers the director of finance who which have previously tendered chaired the old working party, Honeywell, Univac, and IBM. and Kenneth Potts, the chief

working party is to be set up by should cease to have any res-

Leeds City Council to choose its ponsibility for the computer

'Commuters wear out," said Loudon, "and our experts have told us that our present ICL

about 1980/81. As the Installation of a new computer at that time will mean the expenditure of a vast sum for the city, we fee that any decision on what system to use can best be made by a technical working porty.

"It has not been established yet," he added, "but the computer sub-committee is to meet this week to-discuss who should

Loudon also says that now that the compuler system comes under the Department of Adininistration, "we home to develop wider applications and make it a tool rather than a master."

Professor Mike Pitteway, says microprocessors in peripherals

Data Dynamics believes that the lab should be able to help it In programming the micro-processors in its ZIP series of terminals. The newest of these is Tele-ZIP, a portable display terminal that comes with a keyboard, an acoustic coupler and the necessary electronics to enable it to plug into a standard technical consultant to Data television receiver. Having no integral VDU II costs only £550. and typical uses include prngramming at home and order entry by salesmen.

Data Dynamics will retain ownership of the equipment donated to Brunel, but will maintain it free uf charge. The lah will be run by computer to Data Dynamics and other science lecturer Tony Ellerman.

> Thomas of a reception lost weak in the Savoy Hotel, London. The oword, which wes first presented lost year, alms to eword outstanding ochlovament DP manogement.

staff and the needs of his users were the chiaf foctors in seming

Roy Healing Grown, of Hornby Habbles, the DP manager of the year oward for 1975.

Hesling-Brown (pictured left)
ecolved Unic year's DPMA/Data

Logic oward of £250 and a silver punch bowl and cupe from Data

Logic monnging director Ainn

This year's judges were impressed by the wny in which Hesting-Grown involved his staff improving the performence end customer service of the company's ICL ayetem Ten installation. hich handles sales, stock control and invoicing opplications.
Runner-up for the oward was

He wines rose bowl and C150. Neville Toylor, clickman of the OPMA, commented that the winners had displayed exceptional achievement in creeting and oining stoff mornie, which he believes is the key to suc-

Insurance brokers J. H. Minet and Co., who has been involved in upgrading from on IRM 360/22 to on IBM 370/125 installation.

cessful DP ninnogoment.

In addition to Taylor, the judgeo for this year's owards were Brinn Elson, managing director of Scicon Computer Ber-vices, Dorek Scrivener of the Notional Computing Cantre, Inns McSeath of the London Susiness School, inst yeer's win-nor Sydney Perkins of international Harvester Ltd, Ken Owen technology correspondent of The Times and Kit Grindley of Urwick

Aspinall moves to UMIST

professor computation at the University uf Manchester Institute 0 Science and Technology is Professor David Aspinall, currently at University College, Aspinall

Swansco. Aspinall is head of the Department of Electrical and Electronic Engineering at Swansen and is known for several research projects.

Security service

THE security service proposed by the National Computing Centre is to go alicad and details should be available soon. The service (CW, May 11) will act as an umbrelln organisation for education of users in computor

Settling down

FINANCIAL secretary to the Trensury, Robert Sheldon, has ndmitted to the Commons that new procedures introduced at sea ports where computer sys-tema are being installed for online imports clearance were "somewhat slow" but were

£2.5m airlift of ICL machines to Australia IN one of the largest alrlifts of the shipment was handled by the other for Swedish telecom

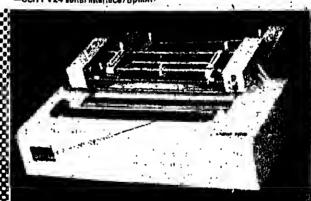
omputer equipment, 35 tons of EMG Air Services, which carried ICL 2900 mainframas were the mochines by road and sea to loaded into a McDonnell Dou-loaded into a McDonnell Dou-loaded into a McDonnell Dou-The precious payload, valued at £2.5 million consisted of two lown to Melbourne Australia. 2960s, one for the Australian The DC-8 was chartered from the Cargolux freight carrier, and government in Canberra, and Ericsson is replacing a 1903T.

munications company L'M Ericsson in Melbourne; and the first two 2950s to be shipped abroad, both of which were for Compusite Buyers Ltd, Mel-

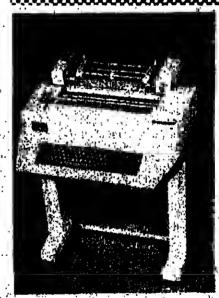
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Fortran 77 arraya may start at any lower bound, not necessarmay be expressions (of a limited type) and the rightmost (or only) dimension of an array used : as a dummy argument may be specified as , thus formalising the long established program-ming convention of writing 1 in this position. Subscripts may ba

the same statement.
Mixed mode expressions are

It is alightly surprising that Fortran 77 her adopted one of the basic control structures, IF-THEN-ELSE, but not a DO-WHILE or DO-UNTIL. The DO

The value of the DO Index is dafined on completion of a loop to be the value it would have had bren one The extended range of a DO-loop is no longer allowed. The form of the block IF is

A CORRESPONDENT of mine

received a letter from America

recently benring this stnmp.

with the letter A in place of n

papers. According to the polls, businessmen, in fact, are res-

paople, when we were not

"We shipped our first com-

puter to Texas University, and

t was lost in transit. Ten years

later wa are building a

manufacturing plant and de-

velopment laborotory in Austin not just to avoid losing

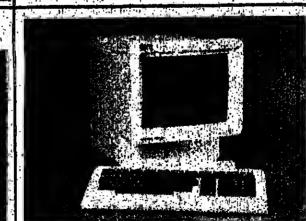
computers in transit.

much older than most of you.

in place of an ELSE there may ba an ELSE IF(e)THEN followed by a block of stataments up to a following ELSE, ELSEIF or ENDIF, Transfar into such a block of statements from out-

little different in facility from comment lines may be late that available on most large leaved with continuation mechines but there are some differences in syntax as man-tioned above. Compered with the 1966 standard, direct-access and so on it would and it is be-list these in full and it is be-that the above gives so impression of the extent of mpression of the extent of changes. bave been introduced, together with OPEN and CLOSE stataments which are optional for sequential files, the INOUIRE statement which may be used to

DZM-180/KSR Conversational



Mere-7900 Data Terminal System

Pland slone and cluster configuration
 Proteit and remote configurations
 Proteit configurations
 Proteit configurations

MEAH



EDITED BY PETER HEWITT

SOFTWARE FILE -2

Predictions over DG Eclipse fulfille

When the drill sergeant's days are done . . .

MICHIE'S PRIVATEVIEW

of being instructed via interininable streams of imperative is that for any list L the conminable streams of imperative catenation of nil (the empty

The helpless indignity of their situation puts me in mind additional meat to it, says that of the recruits marching if the concatenation of L1 and heir situutinn puts me in mind precipice-lined harrack square: tion of X.I.1 and L2 must be For God's suite say sume- X.1.3. Given knowledge of only thing, sergeant, even if it's only theae two facts, a logically

treming machines us muy be afflicted with ennul or dospair. hive news. You too may one day have to think for your-

Tomurrow's programmers will ona dny indolently diabur-den themselvoa of tha drillsergeant chore. How relaxing it is to be oble to bark out ... left, right, laft, right ... now get home using your bleeding common-sensel" and

Harry, Mary, Jane, Lou, Priscilla". then withdraw to the mesaroon. In 1971-72 Bob Kowalski then still at Edinburgh, wes saying this sort of thing with a wild gleam in the eye and a notion is that you should equip wealth of technical detail. In the machine with a hasic reasoning engine, and thereafter tell it nothing but facts on the effect he was saying: "Whatever you want the system to understanding that it will do its best with tham. As you build its stock of knowledge with just know tell it the facts in first order predicate logic. The result will have an obvious dethe right set of relevant asserclarative sementica - it is quita tions about what is or is not the case in the world of aorting, nbout its problem world. If, merging, data control, queueing, scheduling, game-playing, or whatever, so the moreover, the system is equipped with a theorem-prover be-hind the scenea, capable in system builds lta own principle of deducing anything capability to sort, merge, condeducible from the starting trol data, manipulate matrices, facts then whether you like it etc, almply through Ita own effortato prove that any "goal" or not, the logic statementa now take on a second life. They statoment fed to it really can be acquire a procedural seman-

deduced logically from ita accumulated atore of facts. Let us consider, for example, what are the relevant focts 30 years of drill-sergeant about the coocatenetion of programming, end use as a

DO computers ever get bored third list L3. One obvious fact list) with L is just L. Another, with just the needed amount of 12 is L3, then the concatena- on I. A. Robinson's "resolution minded system ought to know For such of the world's exactly what to do when told that the concatenotion of Tom, Dick, Harry and Mary

known as popgroup.

known facts? Try "print (pop-

group)" and prepare to registar relief if we get "Tom, Dick,

What this meana is that we

principle" could be made into nn interpreter for such a Isnguage. But his hearera did not like any of this. Some felt that he was right but mad nthers that he was wrong i only they could think exactly Jane, Lou, Priscilla is the list how. The majority took the progmntle view, tried and How do we find out whether tested on prophets in all times the system has been amart enand ages, that you might as ough to work out tha only well ignore the whole thing substitution ("assignment" in the world of imperativea) for popgroup consistent with the

predicate calculus."

Kowalski showed in detail

how a theorem-prover based

Miracles take time and sweat and ingenuity and dog-gednesa and flair. Kowalaki'a disciplea in Edinburgh, Mar-selliea, Western Ontano and Hungary have deployed these qualities in good measure over the intervening years. The name of the resulting miracle is PROLOG, a programming syatem meticulously faithful to the aweep and simplicity of the original concept, but actually running on commercial machines with efficiencies fully comparable with for exemple, Stanford'a highly optimised pure LISP system.

Those who, like myself, have for many years followed the PROLOG development and have done a little PROLOG programming are inclined to over-excitement, i find myself not only planning to retool my own laboratory's work on the new basia, but apeculoting about the "expert systems" of

can forget the oast dismol Donald Talie two lists Ll and L2 to make n programming language a-

the M/600 (CW, February 2). cements to its multiprogramming Advanced Operating Sysall the time, much studied and well understood by mathematicians, namely first order

In sddition to Cobol and RPG entry/access applications deve- resume execution. lopment tool idea, the infos file managament system and a powerful sort/merge utility.

SOFTWARE FILE-1

All the software was previously available under RDOS on Eclipse C/330 systema, and will now be supported under AOS on both C/330 and M/600

The five products are functionally identical to those offered under RDOS, notes the company, and present an unchanged Interface to the user. However. the work of transferring them from the single-user RDOS environment has not been trivial, and has been accompanied in some cases by significant inter-

spokesman.

The commercial multiprogramming extensions to AOS have been in use for periods up to A year at some eighteen test. have been in use for periods up to a year at some eighteen test and allowing overall control Southompton. Tel: 0780 27391.

add North Thames Gas, Regular decommercially-oriented software liveries are scheduled to hegin to its latest Eclipse computer, early in October.

Sold to be the only minicomhave been fully borne out by the puter Cobol to implement the Ansi 1974 standard at its highest levels, AOS Cobol includes an interactive debugging package using Cobol-like verbs. The package lets users set traps or Il compilers, the new facilities hreakpoints, examine and include DG's interactive data modify data items, and then

> In common with the RPG II compller, and with the PL/1 software released eorlier this year (Software File, January 26), the Cobol compiler is shareable. so that a single copy can serve several users concurrently.

> An enhanced implementation of IBM RPG II, the AOS version is said to be highly compatible DOS RPG II. The software Includes an editor, program analyaer, an interactive symbolic debugger, and intarfaces to

idea also provides access to infos databases, allowing data valldation against files at entry time, and dynamic updating

Facilities are siso syallebal designing and atoring surformats interactively.

An interesting feature of 16 Sort/Merge is that the up cun specify his own collars sequence. In addition to i stundard Ascil sequence 2routines accept files generation any AOS language, including language, including language including the second language includ

The addition of Cobel RPG iI brings to eight an imber of languages is ported under AOS, which is viously offered Fortran IV. for tran V. Basic, PL/I, BUR assembler, and DG/L-112 sion of Algoi.

The commercial end ments are priced at 以版为 Cobol or idea, £1,680 for RIGI ur Infos, and £504 for Serb

December launch

AN international quarter journal is to be launched in D cember aimed at enginee scientists, ond managers

Xerox Sigma replacement pack ready

users will run the new compatible CP-6 operating system has now been announced by Honeywell and is aimed at users of Xerox Sigma 9 and large Sigma 6 and 7 systems.

The announcement, so far only made to Xerox users in North America, includes two topend models in Level 66, designated Level 66/DPS/C3 and C5. The C3 model is designed to support up to 120 time-sharing users and the C5 up to 200 ...

CP-6 is an adaptation of the Xerox Sigmo CP-V operating

The new operating system, designed to preserve the main features of CP-V while running on the 36-bit Level 00 machine rather thou the 32-bit Sigmas, comes with new re-entrant language processors for Cobol 74, Ansi Fortran, APL, Text and Basic, und will also support the Honeywell IDS II datubase sys-

The hardware is an adaptation of Honeywell's new top-end Level 66/DPS systems which supplant the 66/60 and 66/80.

Biggest problem for Honeywell - and for users - is that the hardware-software package will not be available until November 1979. This, allled with the cost, may well lead significant numbers of users to opt for the alternative from

Informatic's European moves management system, of which more than includes a series of user-oriented report of a comprehensive family of accounting companies but several sales have been later this year.

1,200 installations have been made, the inc is quietly building up a strength in the European market for applications suftware-and showing a escutions interest in the small systems market.

Both trends are exemplified in the snnouncement of an IBM System 3 insplementation of the Accounting IV

Offering virtually the same capabilities

functions, the system offers features for budgeting, profit planning, cost allocation, and foreign currency conversion. Report writers available include a freeform English-hased language for producing financial statements, it matrlx report writer, and graphical output facil-

Usage in the UK was originally rest- internal software development.

The mainframe software, written in

Ausi Cubol, runs on IBM and Burroughs

systems and has about 350 users, pre-dominantly in the US. A version for

Honeywell equipment will be resdy next

writers and will be available in Europe systems which also includes packages for made in the last year to major Britishaccounts payable, accounts receivable, owned firms and installations in the UK in addition to standard general ledger and standard produce costing.

One recent customer, International Stores, evaluated seven similar systems before opting for the Informatics package. Having developed and outgrown its own ledger system. International Stores chose to purchase a system because o the prohibitive cost and time penalties of

Due to be released in Europ later this year is a powerful ex tension to the Accounting IV Accounts Pavable system. Designated the purchase order commitment module, the new matching of purchase orders, receiving documents, and ven-

An Informatics spokesmon noted that the company is gearing up to become a full-line supplier of application systems It had already acquired a personnel system from a compan In Milwaukee, Wisconsin and was in the process of acquiring : payroll system, he sald.

The apokesman confirmed hnwever, the compeny had experienced a setback in one of its earlier application ventures, Production IV (CW, May 20, 1976). This package, he said, was no longer activaly marketed either in the UK or the US.

In addition to being too exturers needed copyright protection to prepensive to market, it had also vent unauthorised copying of circuit debeen too demanding in the akills required.

OS PTFs: no problems for non-IBM users With the 3030 series, IBM brought one step closer the

tem for distributing OS PTFs (CW. July 27) raised initial doubts about the position of look-alike manufacturers such as Amdahl, it seems in fact unlikely that the move will raise any problems for non-IBM users of IBM operating

One unxiety was that the new distribution method

over software copyrights, but had no such

problem in recommending copyright pro-tection for computer-readable databases.

The vote this time, ten in favour with two

a telecommunictions link One US manufacturer, Basic

recommending copyright protection for recently invited to consider the question of

Timesharling, has irlready lmnlemented a system for remote online maintenance of Installed system software, which it operates in conjunction with a

software patentability.

Dissenters on this occasion again Included

the writer John Hersey (Software File,

March 23) who was joined by Rhoda Kar-

patkin, executive director of the Consumers

possibility of IBM maintaining

systems software remotely via

its delivery over a low-speed control of central mainframes communications link very connected via the public lengthy and - as a result telephone network. Now Contu recommends copyright protection

Introduced its own remote

hardware/software check-out

service, based on the remote

support facility (RSF) option.

This facility, un attached diag-

nostic processor, allows IBM

un installed machine under the

THE US Nutional Commission on new against, will be reflected in the commission's technological uses of copyrighted works final report to Congress following nearly Congress examine the question of extending (Contu) has finnily come down in favour of three years of work. Congress was also copyright protection to semiconductor devicaa manufactured from o mask, according to a senior ettorney on the commission staff He aaid that counsel for intel had told the Commission that semiconductor manufac-

remote diagnostic scrvice, RSF

network of debugging proces-

sors in effect supersedes the

However, the volume of PTF

material involved would make

existing Retain/370 databaso.

UK firms set to reap spin-offs from Japanese computer drive

PREDICTIONS that the Japanese thrust into the world computer market would create significant would offer would offer the significant would be signifi opportunities for the UK software industry have October 13, 1977). His company has been relief been vividly confirmed by news that Altergo is anglicising some 150 manunia for the Fullish

The contract, which was awarded to Altergo by Ketron inc of Pennaylvania, is believed to he that negotiated earlier this year as the first under the NCC's Intarlock scheme (Software File, January

Valued at around £90,000, this was onnounced as an unspecified technical writing job. Altergo however, would neither confirm nor deny the

Dr David Freeman of Ketron told Computer

by Fujitsu th ndvisi: on US markating.
Altergn's chulrman, Raj Thomas, told Comp

Weekly: "We ore turning the manuals Japanese English Into English English. We timote that it will involve about five man-year effort, but we have put in ona man-year so have done about 10% of the work." Thomas noted that some 70% of Altergo's A

ness is done abroad. Revenue is predicted to around £6.5 million this year, with around

million coming from the US alone. Worldwide, sales of the Shadow II IBM 380

TP monitor account for about 40%, but in the Databases demand currently stand at about 75.

Altergo also markets Spaceman disc management system in the US, under licent from Corodale BV in Amst dam. It has installed it in 30 D. and DUE/VS sites in the since March, according to the UK by Macro 4 (Cw.

with eight offices sire open in the US, Rai Thomas that he was not actively seem a partner for Altergo, by daai with insac, he me membera than they have

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Computer Services share and the search what he wants,"

Working with Ramis, I don't ler users running a centralised "I've been quite lucky, both all day, I go to the client and takes system and larger ones because my cliente are protest.

they would take in a npndatabase environment.

It's the flexibility this gives ants are batter to deal with than the oser that really counts.

DPMs. This he claims a because work for a long time to come:

When i worked in PL/I or Cobol.

In implittake two or three weeks on the way things are done and are not hearly ea claar about, user changed his mind about the user changed his mind about the analyse of the state o

programmer with Unilevar exactly what he wants,"

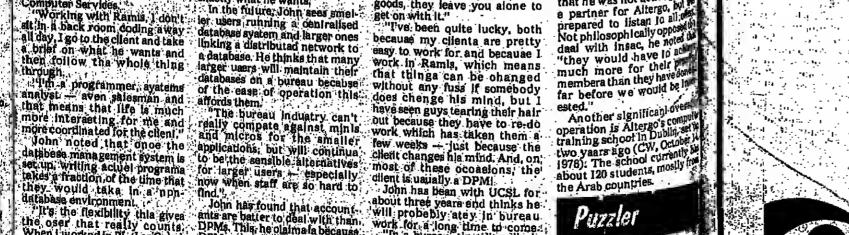
HOTES

THE days of programmers who Unilever uses, is only one don't interfere with the way it is are just programmers are pretty example — I scribble out a decache well over with the advent of sign in two or three hours. It and "Th dotabase systems, maintains great deaster to change it two or about computers and don't went John Hampson, an analyst three times until the user gets to. As long as you produce the

all day, I go to the client and take linking a distributed network to easy to work for and because I she follow that he wants and a database. He thinks that many work in Ramis, which means then follow that whole thing larger users will maintain their that things can be changed

databases on a bureau because without any fuse if somebody analyst — aven salesman and affords them.

that means that life is much — The bureau industry can't out because they have to re-do



Digico launches a teaching system

Totor has been introduced by Digico. Il consists of a choice of hardware bused on a Digico M16 series processor, an II Megahyte disc, and up to Iti Regent VDUs, together with a suite of Basic programs for the construction ind operation of courses.

answers the student gives. A count is kept on the number

of right and wrong answers given, logether with the mean time to answer, and these are ilisplayed at the end of the ses-

The system includes no course One program is used to run material; Digico intends students sessions while another leachers to design all this them allows the teacher to input the selves. Courses can consist of course material. This includes lext, multiplo choice questions, the text, the questions, the right



Education Socretary Shirley Williams has Tutot explained to hat by Ken Atkinson, Digico marketing director. Looking on is David Harington, software services manager.

Second order for Manman

menia, manufacturars of which will use it to store and and four VDUs.

THE second order for Selcon's process information relating to manufacturing management stock, sales and the delivery of system, Manman, has come Its goods. Valued at £65,000, the from Oxford Electronic Instru- system ordered canslats of a 128K Hewlett-Packerd System medical aletronic aquipment, 1000 with a 50 Mbyta disc store

Tutor was demonstrated to

Mrs Shirley Williams, Secretary of State for Education, when she visited the company's Stevenage, Herts, plant to present a Design Council award. This was for the M16E mini, a 16-bit word machine which uses a microprogrammed processor instead of random logic, cnabling the number of chips needed to be reduced from 400 to 180.

 Digicn has also scored in another area. Seven of Its 1602 communications systems have been, ordered for the British Library's Merlin online hook catalogue project. The £150,000 order includes 40 Rogent VDUa which are boing installed in London and at Boston Spa, Yorks. These will provide access lo Computel's ICL 2960 at Bracknell which at present car-

Scots firm introduces a security Basic, the system can be used for other applications, such as administrative tasks, while Tutor

staff between shore bases and oil rigs, checking on authoriaation to protect againal possible ter-

system for North Sea oil rigs

Leo staff reunion is planned

In a separate move, Rockel hns opened a secure data centre in St James' Street, London for storing tapes and other media

formation on staff as required by law. Oll rigs are considered to be All staff are lasued with diamene (raw nylon) manufacmagnetically-encoded identity turing process, Monsanto, the cards carrying a photograph. UK subsidiary of the US Before boarding the helicopter chemical glant, has installed u to fly to the rig, they insert their General Automntion data logging system al its Seal Sands, Middlesbrough, plant. Valued at £130,000, the equipcards into a terminal, which checks that they have been

The testing procedure volves taking samples of as nylon for laboratory analys and logging the details of the samples on the GA system

UK services company goes into PoS market Applications which PBT envisages l

rorist attacks and recording in-

authorised to travel. On arrival

prime targets for terrorists.

ket, Pritchard, Brown and Taylor, the UK and the other to Woking-based Garage market reaearch and computer services Management Services, the parent company Salepoint PoS aystem.

Based on Computar Automation's Naked bureau basis to petrol stationa. Mini and programmable Datapod 2000 PoS Initially, the GMS system will use one 32K terminals, Salapoint is a distributed system Computer Automation Naked Mini, but this developed by PBT, and this lacker comalmed both at the top-end, supermarket-size eventually will be expanded into a dual numicutions software for autosates

ulres just a few terminals. Pritchard, Brown and Taylor has also announced that two Salepoint systams have been sold already; one to the British Market Research Bureau which will use it to collect to be decided.

company, has announced detalla of its of Datapod, which will use it to provide a point-of-sala information service on n

organisations and the smaller retailer who processor system to handle additional ter-Value of the two orders is put at about

analyse customer payments into cash out card or cheque categories. All suftware for the system harlo

night pailing of terminals and county ware for the handling of multitude accessing, signal errors and failed territy identification and polling PBT u.k. looking at the possibility of running als

Salepoint include stock control, sales an

lysis, VAT accounting, and management

informullun/financial reporting, it carls

A PERSONNEL security system at the rig, the cards are inserted hours worked as well, to help a for North Sea oil rigs has been in another terminal, so that u producing payrolls. introduced by Rockall Data constant check is kept uf everyone's whereabouts. Systems of Aberdeen, using ter-This information is also minals from another Scottish important in the event of firm, Fortronics. The system accident or emergency. The system can be expanded to record protection against their keeps track of the movement of

A REUNION of stall who worked lot Leo Computers during the 1950s and 1960s has been proposed by one of their number who now works for ICL, and he would like to hear from others to see how much interest there is in such a gerhoring.

Roy Ferrant, now an ICL seles manager, says that an informal get-together was field some time ago, an informal get-together was field some time ago, attended by 80, so he thinks a more organised event.

GA wins chemical contract TO help it maintain high ment comprises is GA 49 standards of quality in its nery- microprocessors, two 168 co ionitrile and hexamethaline tral processors, a 600 b printer, a matrix printer to:

Mbyte disc drives, live little und three telelypes.

IBM's new head of Office **Products**

SHORTLY after announcing that it is studying the possibility of making its General Business Group a worldwide subsidiary, IBM has changed the man at the rop of its Office Products Division, one of the two main divi-

sions of the group.

The new president of OPD is Richard Young who wes vicepresident of communications the top public relations jub at IBM. He takes over at OPD from James Forese who is now IBM's assistant treasurer.

The IBM study that could lead to General Business Group being made a worldwide subsidiary will take several months to complete, necording to the company, and will include the US and the 21 other countries that have GBG organisations.

The other main part of GBG is the General Systems Division, which sells the System 32, System 3 and System 34 small business configurationa and the Series I minicomputer. The latler represents one of several areas of conflict between GSD and IBM's DP Marketing Group which sells mainframes and network equipment, because Series I is offered by GSD as an alternative to the DP Marketing Group's 3790 diatributed processing system for use in SNA net-

The Office Products Division has become one of the less profitable parts of IBM over the last few years and in 1977 It returned an operating profit of 9.4 per cent compared with the 26 per cent margin achieved by IBM aa



ON a floodlit bill board, perched shove the rooftops of St Louis, Missouri, a massive placard declares, "Our IBM computer eys-tem is a Leman," and it is signed "A Dissatisfied Customor." To mphesiso the point the sign le According to a report from the States an ISM apokosman seld, know who put it up . . . but we are

trying to find out. We'd like to sit n with him and discuss the

Loter the company sold that it know who the user was but wasn't letting on. It added that Goneral Systeme Olvision personnol, the people concorner with Serios 1 and Bystem 3, wore resolvo his difficulties in s

First new Criterion in UK CITY commodity trader J H Rayner is replacing its six-year-old NCR Century with a 128K NCR Criterion I-845, the first to be installed in the UK. The new ayatem, costing £200,000 includes seven VDUs and two 300 lpm printers. It will provide online trading information, and New York and Amsterdam offices are to be linked to it shortly.

Mass storage system installed at Tesco

UP in 102,000 Megabytes of doin can be held in this . Tesco's deviation of the light comb array holds a exagnetic tape contridge with a capacity of 50 Megabytes and a dain set recorded on my of the cartifiges can be occassed in 10 to 15

The ovoilability of the mass atninge syetem from IBM was one of the main reasons for Tesco's decision to switch from ICL to fBM inst year (CW, November 17, 1977). Other rensone listed by Tesco were the high speed printing facilities provided by the IBM 3800 loster printer and the "systems valiability" possible from the MVS operating eys

Tesco says that MVS was chosen in preference to ICL's VME/B because it had for fawer unpredicted. breaks than VME/B and could headle a much more

Tesco's data processing plans include the implementation of an SNA network which will involve about 10,000 terminals located alt over the UK when it is complete in about 10 years from now About 8,000 of the torminals will be PoS unite

installed at Tesco superminikets.
One of the two inninframes ordered by Tosco fro IBM, a 3032 that has airs ady been installed, is the first 3032 in the UK, and the other machine, a 3031, will go in at Cheshunt oarly next year. Conversion of Tesco's 700 ICL programs to IBM is expected to be 90 par cent

An engineer is pictured installing the IBM 3850 mass storngo system at Tesco's Cheshunt head-

US 'word machine' based on the 360

word processor is to be introduced in the US by a computer leasing company, partly as a way of using up its outdated

DPF Inc of Hartsdale, New York is now testing its "Word Machine," which typically uses a 360/30 ns CPU, 3330 disc storage, and betwean 10 and 50 specially designed Intelligent

terminals as typing stationa.

The software will run on any 360, 370 or Amdahl machine, and provides a word processor of considerably greater power than any currently available.

With a big CPU, there is virtually no upper limit to the number of terminals that can be used, but the system would not be economic with fewer than 10. Each terminal has a Diablo

dalay wheel printer attached to it, but other IBM peripherals can be used auch as the ultra-fast laser printer or a COM recorder. Each terminal has its own In-

on the mninfrume and read into the terninal when required.

This menus that there can be a very lurge range of functions available - over 100 different programs at present. The screen is 64 lines by 80 clinracters, with sideways scrolling up to 200

characters.
Incorporated in the mainframe software la an automatic indexing system that enters every non-trivial word in a

Retrievals uaing Boolean logic can be used to find documents long after they were written. The link-up with COM could be useful in connection with this, as purges could transfer documenta that are no longer needed automatically, while kaeping

their indexing on the computer. Automatic indexing for microfilm is a subject in which there is considerable interest,

\$214,000 for a 10-station system, the Word Machine is not chean. but it may form the beginnings of lurge-scale communicating Electronic Office systems. As well as Kodak, un unnamed

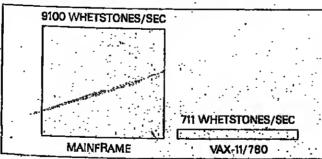
US government office is now testing the machine.

Export services handbook

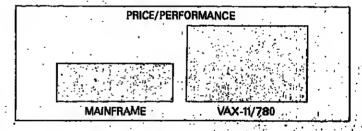
TO ald existing and potential exporters of both products and sarvicea, the Brilish Overseas Trade Board has published the Export Servicea Handbook guide to government and nongovernment facilities. The book costs £2.50 plua 30p packing and postage, and is available from the Publications Sales Unil BOTB, Export House, 50 tel 8080 microproceasor, but no and Kodak is already testing the Ludgate Hill, London EC4M.

And wins two rounds out of three.

Round one to the 60 bit mainframe: Speed. The mainframe is still the speed champion with 9100 Whetstones per second.

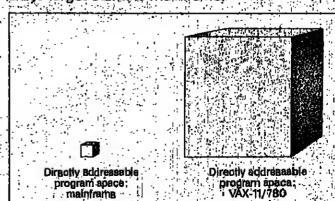


Round two to VAX: Price/Performance: The 32 bit VAX is the world's festest mini. A VAX system runs 711 double precision Whetstones. That's one twelfth the speed - at one twenty-fifth the cost. A dozen VAX systems could equal the throughput of the mainframe system and you'd still save literally millions of dollars.



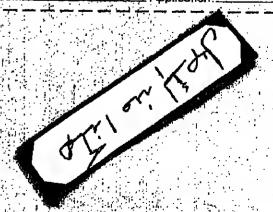
Round three to VAX: Program size.

Virtual addressing and a gigantic 32 bit eddress size, compared to the 18 bit address size of the mainframe, allows VAX a directly addressable program size that is + are you ready? - 1000 times larger than the mainframe.



Get the VAX facts: Get meinframe FORTRAN performance without waiting in a batch queue - or paying batch prices. If you have an application in aerospace computation, signel processing, simulation, educational computing, industrial automation, or eny other big FORTRAN job, get the VAX facts today. Write for your copy of the VAX-11/780 brochure and complete technical summary.

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PEOPLE

President of BEAMA for 1978/9 elected

Electrical and Allied Manufocturers Association, BEAMA, is Michael Perkinson, chairman and chie executive of Crompton Porkinson

He has also been e director of Hawker Siddeley Electric since 1976 and of Hawker Siddeley Group alnce 1971. During 1970/71 he represented Hawker Siddelay Electric on the IIEAMA Council.

Harry Jeckson, e director of GEC Management, was appointed deputy president of BEAMA.

Chris Wood, who was sales and mirketing director at BOC Deta-tolve, hos been appointed managing director. Roger Wallhouse has been promoted from marketing menager n markeling director, and Cyril Banyard, previously dopuly menaging director, becomes doputy chairman. Doug Eyelons, previously director of extornal relations, assumes the title of technical direc-

John Washington has been pro-muted to Europeon antiwere dave-

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iopment manager with Modeomp, and Ilm Whitfield to European tech-nical support monager. Both were previously European technical sup-

Denion Smith, managing director of Daia Sciences Internotional, has been oppointed to the board of the ent company, the Barr and Walluce Arnold Trust, with effect from

Chris Crawford, a director of Pan-

sophic Systems' UK subsidiary, hes

been appointed vice-president for Europo. Ha will be based et the

Further details and registra-tion forms can be obtained by writing to Faderal Computer Conference, Box 360, Wayland, Mass 01778, USA.

Michael Spanner, until recently snlas manager of Geveke Elec-tronics, hos been appointed UK

Kennath Dibbon has been Ralemazoo Group aa a non-executive director, He laft Hembros Bank, where he was e director, earer this year to devote more lime to hia private businesa consultancy

Cheayl Pink, formerly o sales representative with L'Oreal, Celle Forrest, who was an air alawardesa with British-Midlande Airways, and Jan Roberts, praviously a salea represented with A, B, Dick, form the new learn at CPU Computers which will merket the System Mone amail business computer in the One amail business computer in the South-East, Venatia Weston-Webb, formerly a press officer with Shell, has become marketing administra-



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current events and general developments in the

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Washington conference

Weshington, DC's Sharoton-Park Hotel, the US Federal Computer Centerence and Ex-position is designed for govern-

mens computer users.
Among the topics dealt with by the three-day programms vill be softwara conversion, will be software conversion, privacy and security, the intest advances in products and esticae, and technological trends in the computer field.

AT&T, Heneywall, C&C, General Autemation, Perkin-

Elmes and 3M are some of the companies which will be exhibiting at the Exposition.

THE twenty-second international Operational Oats Security Workshop, organised by Operational Data Security Corp. will take place at the City University, loaden, Engiand on August 21-24. The subject will be continuity and cradibility of the data pracessing function. Register with the Rogister. Operational Data Security Corp. 8 Ewardhams Lane. Dix Hills L.L., NY 11746, USA or by phone on August falony with the City Lauring. 1-331 1355 and 1777. Operational Data Security (US) (516) 499-1616.

APPLICATIONS of machine-sided image analysis is the title of a conference to be held in the Nuclear Physics Lab of Oxford University on September 4.5 and sponsored by the institute of Physics, Further details from the Conference Secretary, Dr. David J. Sigoley, B521, Harwell Labbratory, Didcot, Oxfor OX11 GRA, tol. Ablington (0223) 24141 axt 5082.

THE seventh IEEE Computer Society internal local conference. Competer 78, will take place on September 5-8 at the Capital Hilton Hotel, Washington DC. Its subject will becomputer communications networks. For details contact Competer Pall 78, R.Q. Box 639-17, Siver Spring, MO 20001, pt. (2014) 439-7007.

THERE will be Iwe consecutive forthere will be subject of computer aided design, in Selegian in September. Introduction to CAD CAM will be hold on September 18-20, and itetractive Techniques in Computer Aided Design on September 21-23. Boin have been organised by the Italian Chapter of AOM Association for Computing Machinery. Further information on the behavior of AOM Association for Computing Machinery. Further information on the Capternocassories at all CAD Conference. Secretarial CAD Conference. Se in Computer Aided Design on Septem 21-23 Both have been organized the liailist Chapter of ACM Association for Computing Machinery Further ormation on the obstance from the organized secretarial CAD Conference of Glorgio Valle, butting of Bell tong and University of Glorgio Valle, butting of Bell tong and Computer Science, University of Strathciyde Glasgow, 8.30 Details from the Computer science of Computer Science, University of Strathciyde Glasgow, 8.30 Details from the Computer and Automated Strathciyde Glasgow, 8.30 Details from the Computer and Automated Strathciyde Glasgow, 8.30 Details from the Computer and Automated Strathciyde Glasgow, 8.30 Details from the Computer and Automated Strathciyde Glasgow, 8.30 Details from the Computer and Automated Strathciyde of Computer Science at the University, 12, 131 452 4400, ext. 2132.

September 19-21 September 29 Sep

Pot Pourri, end before that was head Eric Sutton, previously a person-nel manager with Univac, has joined organisation and methods with loggett Bowers Selection as a mal consultant in the London Peter White, sales manager of Alacra, has been promoted to sales Terry Carlar, of Redifon Com-

Matt Fannall, o 20-year-old dreughtaman with Dateproducts, Dublin, represented irelead in the World Life-Soving Chempionahipe held nt the represented Irelead in 1918. London, in July, Mett has circedy awars for his country twice in life-saving compatitions, in Ireland in 1975 against France and Australia, and in the last world chempionships in Berlin in 1979.

The state of the s

the US company Merck's boord of directors and lia president and chief executive officer, has been appointed a director of NCR.

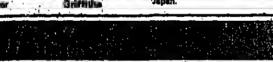
puters, previoually development manager, has been appointed en-gineering managar. Dave Harl, who was product engineering manager for Seecheck, has become product manager, engineering at Redifon. Calls for papers PAPERS are solicited for the 1979 inter-national Symposium on Fautt-Tolerant Computing, to be held in Medison. Wisconsin on June 20-22, 1879. It is sponaorad by the technical committee on fault-tolerant computing of the IEEE Computer Sectory. The deedline for receipt of a 200-word summary in four copies is November 1, and it should be sent to the Program Chebrman, Gerald M. Masson, Dept of Electrical Engineering. Johns Hopkins University, Gelitmore, Moryland 21218. orad by the technical committee Ian.Griffiths joine Trent Polytech-nic a computing services dapartment s systems manager from York University where he was a systeme pro-

A CALL for papers has been lasted by the Japan Society of Applied Physics, organisers of the 1979 International Conference on Solid State Devices, which will be held at the Tokyo Chomber of Commerce and Industry on August 27-29, 1979. Thodeed-line for summatics is March 31, 1979. Determined Conference on Solid States. International Conference on Solid Stote
Oevices, Japan Society of Applica
Physics, Kikal-Shinko Katkan, 2-5-8.
Shiba-Kesn, Minoto-ku, Tokyo 195.

Esmono Cooper has joined Insight Marketing and Personnel Consult-

anta in Dublin as sanior parsonnel consultant. For the last year he has

een running his own restauront, tho



AUGUST 6-0 Jerusalem. AUGUST 9

Computer as clatheta, From Tower Pler, London, 18-00, Technology, 19-00, Technology, 19-000, 19-00, 19-00, 19-00, 19-00, 19-00, 19-00, 19-00, 19-00, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-0000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-000, 19-

LUGUST 21-25

Cybernetics and systems fourth inter-national congress. World Organization of General Systems and Cybernotics.

AUGUST 23-25.
Conference on persital processing.
EEG Computer Society/Wayno State
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Meeting, VM UK and troised Users'
Group, Maldanheed, Delatis from tain
Sthaon on 01-389 5111, ext 2700.
AUGUST 23-25.
Siggraph 78, 18th conference on computer graphics sed interactive techniques. Association tor Computing
Machinery, Atlanta, Georgia, USA.
AUGUST 23-35-7EMBER 1
Eighth Australian Computer Conference, Australian Computer Society,
Canberts.

versity. Stanford, California.
SEPTEMBER t2
Computer programs for project control, sominer. Association of Project Managers. Waldorf Hotel, London WC 2.
10.00, Details APM, 01-799 3182.
Computers and the unions. Cilve, Jane

Computers and the unions. Cilve Jen-kine. 9CS 1978 Lecture Series. London School of Economics, London WC2, 19.39. and control the day to day running of the system. Albert Stacey. BCS Group for New or Potential Users. Royal Angus Hotel, Birmingham, 14,00. SEPTEMBER 12-14

GEPTEMBER 13 :.

Essex. 10.30, Details: Maldanhead 29525. Very Largo Datebases, cantaronce. 18EE Computer Society/ACM/SMIS.

Berlin. SEPTEMSER 18-22 Jackson dealan te

SEPTEMSER 18-23
Jockson design technique, workshop.
Marcus Bromberger: Dept of Computer.
Science, University of Strathclyde, Glasgow, 8-30. Desials from the Continuing Education Office at the University, telip 041-552-4400, ext 2432.
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Getting cost control accepted, seminar.
Association of Project Managors/
Association of Project Managors/
Association of Cost Engineers. Beliry Hotel, Manchester, Detailss M. H. Oroke.
081-233-2011.
SEPTEMBER 18-24

Scanner fund

THE Walsgrave Hospital Covenuy, aconner appeal fund (CW, September 1, 1977), which evoked at unprecedanted response from the people of Warwickehire, has now

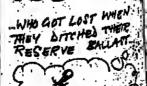
not only a £380,000 Elscini boty sconner, bul Iwo extras: an ladepe dent viewing system and a multi-imager which puts the revision X-ray film. And this still leaves to ough to pay the £20,000 installation costs and have £100,000 left la fa-Ture muchine updates and the imining of hospital staff in the und











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AND HAVISATION COMPUTER! Bank

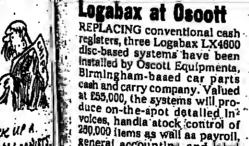
society" by Tom Crowc and John Hywel Jones, both of the

The fund's total was way over target at about £410,000, plus at odditional £100,000 from the West Midlanda Ragional Health Authority.

ing the evolution of computers as a tree with many branches, spital hos been able to by has been produced by Management Information Corp. Each branch showe a different history making machine such as the IBM 607 in the 1950s, the 7094 in In 1965 and the System 370 In the ordered from MiC at 140 Barelay Centre, Cherry Hill, New Jersey



gineering, has purchased three Burroughs B800 systems worth £135,000.







clear the DP mists First products released

of Thames Polytechnic. Sndly, the mists of confusion and Ignorance surrounding this important subject are in no way cleared by this pamphlet; rather they are made worse by hysterical and muddled thinking.

Gasmen look at array processor

AFTER using a Univec 1198 for eight yenre, British Que Landon Research Station needs greater capecity

The LRS elms to keep elireast of techniques used in the oil industry end has looked at eeveral erroy processors such as ICL's DAP. A terger Univer

Software developed of the station for onelysis and pradiction of gos field development, and distribution network planning was demonstrated less week, to calcurate 50 years since the laboratory came into

xistance on the Fulhom Research Laboratory of the

A new program colled Greep is used for ossessing different strotegies of ges end oil extrection in the North See and trish See gos fields.

Another progrom run on the 202K 1100 system uses weather reports to predict demand for ges,

Fabians fail to

schine hos eleo been considered.

sa. Light and Coke Co

bandwagon of those expostu-

lating on the social impact of

computere la the Pablan Society,

cntitled "The computer and

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stem 2020 malnframe

arch 2), has been placed well Duffryn Computer as f. B. at Juke which

ase the machine to run

be production control

Online policy

roughs B4700.

Historio

poster

which has published a new tract

Understanding of the pam-phlet is inhibited at the initial level by a mass of misprints and illileracies. Having waded through these, one is next struck by a mislake that is commonly made by lay people but la sur-priaing coming from professionals: the anthropomorphising of compulers, as if they were allen invaders who walked and talked among us.

'Man must not allow the compuler . . . to define its own role. Like some allen force, i has gradually digested a major part of our records. The com-puter needs to be brought under the 80s, the System 360 starting

This viaion of machinas taking over the world, emanating lar-gely from Samuel Butler, has long been discredited as people have become aware that machines are only extensiona of

the human body.

A spade is an extension of the ELECTRICAL and mechanical arm of the digger; a computar is an extension of the brain turnkey contracting subsidiary of the Hawkar Siddeley group, Hawker Siddeley Power Enand hand of the programmar. interestingly enough, one of tha first authorities the Fabian authors rest their argument on a Samual Butler.

The pamphlet procesus to expound on the enormous changes that computers could wreak on our society over the next 30 years, claiming that at present these changes are outside the

control of people.

The authora' agonising is accompanied by various inaccu-racles and salf-contradictions. For instance, thay ask: "How can the rational scientific tradition of socialism help ua [to fight nese dangers, Then they quote Marcuse attacking "technological rationality" as an evil. Several courses of action are

GNLINE policy registration has been added to the services proproposed to increase control over the development of computer technology, mainly concarned-with freedom of Information and privacy. One is to extend the brief of

lails of policies via Burroughs VDUs linked to CMG's Burproposed Data Protection Authority to cover "social impact" and "the dehumanising effect of the use of computers in a social context," where presumably it would have power to THE number of kay-to-disc sys-tems from Rediton Computers ban developments. How it would judge "dehumanising effect" is installed with various Greater not specified. london boroughs will soon total The public has serious need of

is, following orders placed by the London Bordugh of Hilling don and the Corporation of London. The two orders are worth about £90,000. more sophisi idation about computers, to avoid being misled and to make sure it gete what it

Alternative

Oaley wheel printers can now be used on the Kelle Infotes 7000 word processor as an alternative to the ISM golf ball printer: A new model, the in-fotes 7000 Q; incorporates a Quine printer and costs £4,525. Existing units can be upgraded for about £2,000. Kelle infotes word processors are marketed in the UK by Dataword Equip-ment A TACTICAL communications

*The computer and society, by Tom Crowc and John Hywel Jones, 18pp. 50p. Fabien Society, 11 Dart-mouth Street, London, SW1H 9BN,

norts want. Unfortunately this

pamphlet makes little construc-

live contribution to that aim.

which can vnry five per cent with a one degree

Centigrade chonge in temperature.

The station developed its own herdware monitor, which shows that 60 to 80% CPU tending hos been

The aintion elso uses three mints es ports of

analytical instruments. An X-rey fluorescence apec trometor from Link Bystems, based on a Bete General Nove 2, is used to identify elements present in a sample of any motoriel. As well as pinpointing the main elements in seconds, it can detect minute traces

of other elements within holt en hour non-

estructivoly.
A 32K Philips 052M controls on X-rey diffroc

tometer for identifying crystelline compounds in o material end a Vorion 311A controls o mass spec-trometer and a ges chrometograph used together in

The new company RORY JOHNSTON associated with Systems De-

based compuler systems.

signers and the shares of both management system, and ratg-gediscd terminals for industrial companies are owned by the holding company, Systems Dc-signers international. environments are among the

first products from Systems Hnused in n new, purpose-bullt 7,000 square foot factory in manufacturing mini and micro Farnborough, Hants, the company la aiming for a turnover of £880,000 in its first year of buel-

Insight into the costing of data processing

AN insight into how account-ants cost data processing is pro-vided in a 94 page booklet. The cost control of data processing. li wae written by a group o members of the Institute of Cost and Management Accountants but being written by accountants for secountants should not deler other readers. Indeed the sections on charging out could be very useful for the DP

manager.
The book begins with the cost justification and evaluation of DP proposals. Cost control of the DP department and project development occupies a further 35 pages of useful Information. The final chapters are concerned with churging out and seven methods are bricfly explained.

ICMA hae been running series of courses on "Charging for Computer Services" in conunction with the National mputing Centre.

"The cost controt of data proces-aing, £3.94, B. V. Piggett, Institute of Cost and Management Accountants, 63 Portland Place, London, WtN 4AB, Tel; 01-580 6542.

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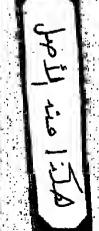
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